

REMARKS**Claims Reading on Embodiments**

In the Office Action of March 8, 2005 (hereinafter, "Office Action"), the Examiner states that the Office Action Response of December 13, 2004 (hereinafter, Prior Office Action Response) failed to indicate which claims read on the elected species and therefore fails to identify a single species for examination. The Office Action further states that there are three different species of diffraction gratings structures disclosed in the specification. Applicant respectfully disagrees.

Three *embodiments* (not species) of a diffraction grating are disclosed. Diffraction grating 100 is embodied in Figures 1, 2, 3A, 3B, and 3C. As indicated in the Prior Office Action Response, claims 1 – 10 (square wells are formed when the movable component is actuated, and claims 11 – 12 (square wells are formed when the movable component is not actuated) read on the diffraction grating 100, and thus the elected Species A. (See last sentence of second paragraph of page 2 of Prior Office Action Response, in which independent claims 1 and 11 are specified in parentheses.)

The second embodiment, diffraction grating 200, is embodied in Figures 4, 5, 6A, 6B, and 7. As indicated in the Prior Office Action Response, claims 13 – 20 (square wells are formed when the movable component is actuated) and claims 21 – 22 (square wells are formed when the movable component is not actuated) read on the diffraction grating 200. (See last sentence of third paragraph of page 2 of Prior Office Action Response, in which independent claims 13 and 21 are specified in parentheses.)

The third embodiment, diffraction grating 300, is embodied in Figures 8, 9A, 9B, 9C, 9D, and 9E. As indicated in the Prior Office Action Response, claims 28 – 45 read on the diffraction grating 300. (See first sentence of page 3 of Prior Office Action Response, in which independent claim 28 is specified in parentheses.)

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As explained in the "With Traverse" section, below, claims 23 – 27 and 46 – 47 also read on the elected species, Species A. Claims 52 – 53 and 54 – 55 recite monochromators, which may use any one of the diffraction gratings 100, 200, or 300. Thus, claims 52 – 55 also read on the elected species, Species A.

To summarize, claims 1 – 10, 11 – 12, 23 – 27, 46 – 47, 52 – 53, and 54 – 55 all read on the elected species, Species A.

Applicant apologizes for not making it sufficiently clear which claims read on which of the diffraction gratings 100, 200, 300 in the Prior Office Action Response.

With Traverse

Applicant had a brief telephone conversation with Examiner Audrey Chang today, in which the traversal of the species election (Species A) of the Prior Office Action Response was briefly discussed. Although, in responding to the Office Action, discussion of the "with traverse" designation is not required, Applicant nevertheless believes further discussion is merited.

Claims 23 – 27 read on the three embodiments described above. Independent claim 23 recites:

23. A diffraction grating, comprising:

a means for moving a plurality of movable beams between a plurality of stationary beams, wherein the plurality of movable beams are coupled to one or more long beams, and the plurality of movable beams are alternately disposed between the stationary beams;

wherein a plurality of square wells are formed when the plurality of movable beams are actuated, wherein diffraction parallel to the one or more long beams occurs when light strikes the square wells.

The Prior Office Action Response explained how claim 23 reads on each of the diffraction gratings, 100, 200, and 300 (see page 4, 2nd and 3rd paragraphs of Prior Office Action Response). All three embodiments consist of *a means for moving a plurality of movable beams between a plurality of stationary beams*, as recited in claim 23. (The Prior Office Action Response includes more detail, including reference numerals from figures to be associated with each claim

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element.) The three embodiments 100, 200, 300 share the "parallel-to-beam diffraction" that is not found in prior art diffraction gratings.

Claims 46 – 47 likewise read on the three embodiments described above. Independent claim 46 recites:

46. A method, comprising:

disposing a movable component against a stationary component, wherein the movable component comprises a plurality of cross beams coupled to at least one long beam and the stationary component comprises a plurality of projecting beams; and

actuating the movable component to a plurality of square wells, wherein diffraction parallel to the at least one long beam occurs when light strikes the square wells.

As with claim 23, each element of claim 46 accurately describes each diffraction grating 100, 200, 300.

In looking at the third embodiment, diffraction grating 300, *at least one long beam* is not explicitly depicted in Figure 8. Figure 8 was drawn very simply, for ease of understanding. However, the specification discloses that the diffraction grating 300 may be formed using overlapping, parallel beams, that is, a long beam (page 11, lines 26 – 30 – page 12, lines 1 – 2). It is possible to amend Figure 8 to explicitly show first and second long beams, if such amendment will make it clearer that claims 23 – 27 and 46 – 47 read on the diffraction grating 300.

Since at least some claims read on all three embodiments 100, 200, and 300, all claims (and associated Figures) should be considered part of a single species. Thus, restriction is improper and Applicant respectfully requests prosecution on all claims as a single invention. Since independent claims 23 and 46 are generic (MPEP 806.04(d)) to all three diffraction gratings 100, 200, 300, restriction is improper. Since independent inventions, as defined under MPEP 806.04, are not found here, Applicant respectfully requests prosecution on the merits of all claims recited and all embodiments disclosed.

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Because of the great number of claims and figures in this application, the following table is provided to specify which claims and which figures are associated with the each of the three embodiments.

Table: Claims associated with diffraction gratings 100, 200, 300

| claimset (range) | diffraction grating(s) | relevant figures |
|------------------|------------------------|------------------|
| 1 – 10 | 100 | 1, 2, 3A – 3C |
| 11 – 12 | 100 | 1, 2, 3A – 3C |
| 13 – 20 | 200 | 4, 5, 6A – 6B, 7 |
| 21 – 22 | 200 | 4, 5, 6A – 6B, 7 |
| 23 – 27 | 100, 200, 300 | all |
| 28 – 45 | 300 | 8, 9A – 9E |
| 46 – 47 | 100, 200, 300 | all |
| 48 – 51 | 300 | 8, 9A – 9E |
| 52 – 53 | 100, 200, 300 | all |
| 54 – 55 | 100, 200, 300 | all |

Request for Telephonic Interview

Applicant respectfully requests a telephonic interview with the Examiner, at a time which is convenient to the Examiner. Applicant's attorney is available at the phone number listed below.

Please associate this file with our customer number **32509**.

Respectfully Submitted,



March 30, 2005

Date

Carrie A. Boone
Reg. No. 48,282
CARRIE A. BOONE, P.C.
2450 Louisiana, Suite 400-310
Houston, Texas 77006
713-521-2176 Main
713-521-2177 Fax

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